

*A*  
(c) a reactive component that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the acrylated bis-phenol-A derivative.

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Please amend claim 11 as follows:

*A<sup>2</sup>*  
(11) A curable blend according to Claim 1 wherein the reactive component is selected from the group consisting of: an aliphatic monofunctional acrylate, an aliphatic multifunctional acrylate, an aliphatic monofunctional methacrylate, or an aliphatic multifunctional methacrylate.

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Please amend claim 13 as follows:

*A<sup>3</sup>*  
(13) A curable blend according to Claim 1 wherein the reactive component is selected from the group consisting of: a polyoxyalkylene monofunctional acrylate, a polyoxyalkylene multifunctional acrylate, a polyoxyalkylene monofunctional methacrylate, or a polyoxyalkylene multifunctional methacrylate.

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Please amend claim 25 as follows:

*A<sup>4</sup>*  
(25) A coated substrate wherein the coating comprises a crosslinked composition prepared from a homogeneous blend comprising:

(a) a 1,2-polybutadiene oligomer having a number average molecular weight (M<sub>n</sub>) of about 500 Daltons to about 50,000 Daltons,  
(b) more than 25% based on weight of a bis-phenol-A derivative that is end-capped with acrylate functionality, and

*(A) 4*  
(c) a reactive component that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the bis-phenol-A derivative.

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Please amend claim 39 as follows

(39) A process for preparing a coated substrate comprising:  
(a) obtaining a substrate with a clean surface,  
(b) applying a coating to the substrate wherein the coating comprises a homogeneous blend comprising:  
(x) a 1,2-polybutadiene oligomer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons,  
(y) more than 25 percent based on weight of a bis-phenol-A derivative that is end-capped with acrylate functionality, and  
(z) a reactive component that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the bis-phenol-A derivative, and  
(c) curing the homogeneous blend by exposing said blend to a sufficient level of a predetermined form of radiant energy.

*(A) 5*  
[Please amend claim 40 as follows:]

(40) A process for preparing a coated substrate according to Claim 39 wherein the radiant energy is derived from a source which is a member selected from the group consisting of

electron beam, ultraviolet, radiofrequency, infrared, and combinations thereof.

[Please amend claim 41 as follows:]

(41) A process for preparing a coated substrate according to Claim 40, wherein the substrate is an electrically conductive material that is heated in a radiofrequency induction field to initiate catalyst activity.

[Please amend claim 42 as follows:]

(42) A process for preparing a coated substrate comprising:

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- (a) obtaining a substrate with a clean surface,
- (b) applying a coating to the substrate wherein the coating comprises a homogeneous blend comprising:
  - (w) a 1,2 – polybutadiene oligomer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons,
  - (x) more than 25 percent based on weight of a bis-phenol A derivative that is end-capped with acrylate functionality, and
  - (y) a reactive component that has at least one terminal double bond and that enhances the compatibility between the 1,2 – polybutadiene oligomer and the bis-phenol-A derivative, and
  - (z) a ground state catalyst that initiates free radical cross-linking upon exposure to heat, and
- (c) curing the homogeneous blend by exposing said blend to a sufficient level of a predetermined form of thermal energy.

Please add the following new claims:

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(44) A curable homogeneous blend comprising:

- (a) a 1,2-polybutadiene copolymer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons,
- (b) a bis-phenol-A derivative that is end-capped with acrylate functionality, and
- (c) a reactive component that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the acrylated bis-phenol-A derivative.

(45) A curable blend according to Claim 44 wherein the 1,2-polybutadiene copolymer is prepared from butadiene and a vinyl monomer that is a member selected from the group consisting of: styrene, vinyl acetate, divinyl benzene, isoprene, chloroprene, alkyl acrylates, alkyl methacrylates, ethylene, propylene, butylene and mixtures thereof.

(46) A curable homogeneous blend comprising:

- (a) a 1,2-polybutadiene oligomer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons,
- (b) an epoxy prepared from epichlorohydrin and bis-phenol-A that is end-capped with acrylate functionality, and
- (c) a reactive component that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the acrylated bis-phenol-A derivative.

(47) A curable homogeneous blend comprising:

(a) a 1,2-polybutadiene oligomer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons,

(b) a bis-phenol-A derivative that is end-capped with acrylate functionality, and

(c) a reactive component substituted with long chain alkyl or alkoxy segments that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the acrylated bis-phenol-A derivative.

(48) A curable blend according to Claim 47 wherein the substituted reactive component is a member selected from the group consisting of: alkoxylated nonyl phenol acrylate and alkoxylated nonyl phenol methacrylate.

(49) A curable homogeneous blend comprising:

(a) a 1,2-polybutadiene oligomer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons,

(b) a bis-phenol-A derivative that is end-capped with acrylate functionality, and

(c) a heterocyclic reactive organic compound that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the acrylated bis-phenol-A derivative.

(50) A curable blend according to Claim 49 wherein the heterocyclic compound is a member selected from the group consisting of: n-vinyl pyrrolidone and methyl-n-vinyl pyrrolidone.

(51) A curable homogeneous blend comprising:

- (a) a 1,2-polybutadiene oligomer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons,
- (b) a bis-phenol-A derivative that is end-capped with acrylate functionality,
- (c) a reactive component that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the acrylated bis-phenol-A derivative, and
- (d) a hydroxy functional adhesion promoter.

(52) A curable blend according to Claim 50 wherein the hydroxy functional compound is a member selected from the group consisting of hydroxyethyl methacrylate and ethoxylated hydroxyethyl methacrylate.

(53) A coated substrate wherein the coating comprises a crosslinked composition prepared from a homogeneous blend comprising:

- (a) a 1,2-polybutadiene copolymer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons,
- (b) a bis-phenol-A derivative that is end-capped with acrylate functionality, and

(c) a reactive component that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the bis-phenol-A derivative.

(54) A coated substrate according to Claim 52 wherein the 1,2-polybutadiene copolymer is prepared from butadiene and a vinyl monomer that is a member selected from the group consisting of: styrene, vinyl acetate, divinyl benzene, isoprene, chloroprene, alkyl acrylates, alkyl methacrylates, ethylene, propylene, butylene and mixtures thereof.

(55) A coated substrate according to Claim 52 wherein the bis-phenol-A derivative is prepared from epichlorohydrin and bis-phenol-A.